

REMARKS/ARGUMENTS

In an Office Action mailed January 30, 2006, the Examiner states that the referenced provisional applications in the priority claim under 35 U.S.C. §119(e) "fail to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application" because "said prior-filed applications fail to provide support for the claimed elastic film and second, discontinuously distributed, adhesive layer."

Applicants disagree.

By way of example, support for the claimed elastic film includes at least page 6, line 4-page 7, line 3, and page 12, line 17-page 13, line 2, of U.S. Provisional Application, Serial No. 60/403,992, filed August 16, 2002.

By way of further example, support for the claimed second, discontinuously distributed, adhesive layer includes at least page 3, lines 2-20; page 3, line 21-page 4, line 2; page 5, line 21-page 6, line 3; Fig. 1; page 7, lines 6-16; page 9, lines 17-22; page 10, lines 1-9; page 12, line 17-page 13, line 2; page 13, lines 7-12; page 17, lines 12-22; Figs. 7-8; and each of pages 19-23 of U.S. Provisional Application, Serial No. 60/403,992, filed August 16, 2002.

The Examiner has objected to claims 11 and 17 as being duplicates of one another. In view of the cancellation of these claims, this objection is now moot.

The Examiner rejects claims 23-28 and 35-44 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In view of the cancellation of these claims, this rejection is now moot.

The Examiner rejects claims 1, 3-18, and 23-28 under 35 U.S.C. §102(a) as being unpatentable over JP 2001-270019 assigned to Shingii alone or in view of U.S. 3,961,116 to Klein and claim 2 under 35 U.S.C. §103(a) as being unpatentable over the cited Shingii reference alone or in view of Klein as applied to claim 1 above and in further view of U.S. 5,597,637 to Abrams.

In view of the cancellation of these claims, this rejection is now moot.

Applicant has added new claims 45-81.

These claims are supported by the Specification.

Specifically, the requirement that the second includes a plurality of void spaces, or is porous, includes page 3, lines 1-4, page 10, lines 1-9, page 13, lines 1-12, and Figs. 1-4 and 7-9.

The newly added independent claims 45, 62, and 72 are allowable over the cited references. The cited references fail to teach or suggest at least the following italicized features of the independent claims:

45. A flocked article, comprising:
a plurality of flock fibers;
an *elastic* film having first and second sides, the elastic film comprising rubber and/or an elastomer;

a first *thermoset* adhesive layer bonded to the first side of the elastic film and to the plurality of flock fibers, *the first thermoset adhesive layer being substantially continuously distributed over the first side of the elastic film and fully activated*; and
a second *thermoplastic* adhesive layer bonded to the second side of the elastic film, *the second adhesive layer comprising a plurality of void spaces*.

62. An article, comprising:
a plurality of flock fibers;
an *elastic* film having first and second sides, *wherein the elastic film comprises rubber and/or an elastomeric material and wherein at least one of the following is true: (i) the elastic film has a modulus of elasticity of less than about 11.25 lb/ft and more than about 0.5 lb/ft, (ii) the elastic film has an elongation of at least about 200%, and (iii) the elastic film has a recovery of at least about 75% after being stretched to 100% of the film's length and allowed to retract freely*; and
a first *thermosetting* adhesive layer bonded to the first side of the elastic film and to the plurality of flock fibers, *the first thermosetting adhesive layer being fully activated*.

72. An article manufactured by steps, comprising:
(a) contacting flock with a pre-formed and self-supporting first permanent adhesive layer, *the first permanent adhesive layer being a thermosetting adhesive*;
(b) contacting the first permanent adhesive layer with an *elastic* layer, the flock and first permanent adhesive layer being located on a common side of the elastic layer, *wherein at least one of the following is true:*
(i) the elastic film has a modulus of elasticity of less than about 11.25 lb/ft and more than about 0.5 lb/ft,
(ii) the elastic film has an elongation of at least about 200%, and
(iii) the elastic film has a recovery of at least about 75% after being stretched to 100% of the film's length and allowed to retract freely; and

(c) when the first permanent adhesive layer is in contact with the flock and elastic layer, fully activating the first permanent adhesive layer, whereby the first permanent adhesive layer is fully thermoset; and

(d) contacting the elastic layer with a second adhesive layer, wherein the second adhesive layer is thermoplastic and wherein the first and second adhesive layers are located on opposing sides of the elastic layer.

The Shingii Reference

Shingii is directed to a flocked article including flock 3, and an adhesive attaching the flock 3 to an elastic sheet 2. The elastic sheet 2 is a knitted fabric. A smoothability resin, such as polyurethane, can be applied to the opposite side of the sheet 2. Shingii says nothing about the properties of the elastic sheet and, according to the Examiner, teaches that the smoothability resin is applied continuously to the opposite side of the sheet 2.

Klein

Klein is directed to a flocked loosely knit fabric. The fabric 104 is coated with a flock binder or adhesive to which flock 102 is applied. Thereafter, the coated substrate is held for a sufficient time to allow the binder to migrate through the substrate to the opposite side thereof. A particulate material is then applied to the opposite side of the substrate whereby it is secured to the substrate by virtue of the migrated binder. "[T]he product obtained does not have a continuous film or sheet of binder or adhesive thereon." (Col. 1, lines 66-69.) The discontinuously applied adhesives do not "interfere with the air and moisture permeability of the laminate." (Col. 2, lines 26-28.)

The article is manufactured by coating a support sheet 103 with the first binder (release) adhesive, the first binder adhesive is then flocked, the flocked sheet is then removably contacted to the fabric 112, the free side of the fabric is coated with a second binder adhesive (which migrates to the side of the fabric that is in loose contact with the flock), the free side of the fabric is flocked, and finally the second binder adhesive cured to provide the article of Fig. 1 (which excludes the first binder adhesive and sheet 103).

Abrams

Abrams is directed to a stretchable continuous hot melt applied to a transfer so that the transfer may stretch when it is applied to a stretchable substrate without cracking or splitting. The hot melt is made from an extrusion of polyester and urethane combined in a ratio of between 80:20 and 20:80.

A transfer 2 includes a dimensionally stable paper sheet 4 to which a conventional flock transfer release adhesive 6, usually a silicon wax, is applied. Flock 8, which may be rayon or any other type of conductive material, such as nylon, polyester, etc., is applied to the activated adhesive 6 by conventional electrostatic means or gravity. The flock 8 is coated with a continuous binder adhesive 10, such as a water based acrylic which binds the flock into a unit. The binder 10 may contain an additional adhesive or hot melt, for binding the transfer to a substrate 14, such as an item of clothing. Alternatively, a continuous hot melt layer 12 may be applied to the binder 10. The use of a separate hot melt layer is preferred.

FIG. 2 discloses the application of the flock transfer to a stretchable item of clothing, such as a sock. As is readily known, when an item of clothing of this type is applied upon the foot, it stretches significantly, as that portion of the sock bearing the flock passes the wider part of the foot, for movement and locating up upon the ankle. Hence, under normal conditions, when the standard type of flock is used, eventually, they crack, and after repeated washings, deteriorate significantly. But, through the usage of an elastomeric type of adhesive backing for the flock, the adhesive holding the flock has stretchability, along with the sock, and therefore, once the sock reaches steady state, the flock re-establishes its original size, and remains integral and attractive in its appearance.

Rejections under §103(a) - Shingii and Abrams in view of Klein

Shingii, at best, teaches a flocked material attached to an elastic sheet by an adhesive material (Abstract and ¶ 0006). Neither Shingii nor Abrams make mention of a porous or discontinuous adhesive. The invention of Shingii is directed to fabrics for use in personal protective equipment, wet suits and dry suits and specifically to fabrics that are elastic yet remain waterproof (¶¶ 0012, 0013 and 0021) while Abrams is directed to the use of an elastomeric adhesive to adhere a flocked design to a stretchable material, such as a sock.

Klein, in contrast, specifically teaches that continuous film adhesives create fabrics containing a gas and moisture impermeable barrier that are unsuitable for certain uses (Col. 1, lines 17-30). Klein discloses that this problem can be solved by making a flocked fabric that is porous due to a non-continuous, permeable adhesive binder (Col. 1, lines 57-60). Klein specifically teaches that the product "does not have a continuous film or sheet of binder or adhesive thereon." (Col. 1, lines 67-68). Rather, the fabric remains porous because of the discontinuous nature of the adhesive, thus resulting in permeability (Col. 2, lines 4-7). Klein also states that the adhesive must be present in a non-continuous manner "so as to not interfere with the air and moisture permeability of the laminate." (Col. 2, lines 26-27).

A *prima facie* case of obviousness requires some suggestion or motivation to combine the references that form the basis of the rejection. No such motivation, nor even a mere suggestion, exists to combine the teachings of Shingii and Abrams with the teachings of Klein. In fact, each reference teaches away from using the teachings of the other. Further, combining Shingii with Klein would destroy the inventions disclosed in each reference.

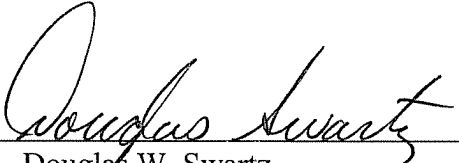
The use of the non-continuous, porous adhesive of Klein in the fabrics of Shingii and Abrams would destroy Shingii's stated goal of a waterproof yet flexible fabric and Abram's ability to adhere flock to a stretchable substrate by the adhesive's failure to support the binder adhesive in locations where the elastomeric adhesive is absent. Likewise, using the continuous adhesive of Shingii or Abrams in the fabrics of Klein (a combination expressly pointed out as non-operative in Klein) would result in a fabric impermeable to air and moisture that would completely frustrate the invention set forth in Klein. Accordingly, a *prima facie* case of obviousness based on the combination of Shingii and Klein has not been established.

The dependent claims provide further reasons for allowability.

Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

SHERIDAN ROSS P.C.

By: 
Douglas W. Swartz
Registration No. 37,739
1560 Broadway, Suite 1200
Denver, Colorado 80202-5141
(303) 863-9700

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